

REMARKS

The courtesies extended to the undersigned by Examiner Joshua Zimmerman and by SPE Judy Nguyen, during the lengthy interview held October 25, 2007, are acknowledged. The willingness of the Examiners to fully discuss all of the aspects of the subject invention is particularly appreciated. In response to the non-final Office Action of July 26, 2007 and after further consideration of the discussions held during the interview of October 25, 2007, the claims of the subject U.S. patent application have again been amended in a further effort to patentably define the subject invention over the prior art cited and relied on by Examiner Zimmerman, taken either singly, or in combination. It is believed that the claims now pending in the application are patentable over the prior art of record. Reexamination and reconsideration of the application, and allowance of the claims is respectfully requested.

As was discussed at length during the interview, and as is recited in currently amended claim 102, the subject invention is directed to a method for controlling rollers in a dampening agent application roller train that is part of a printing unit. As may be seen in either of Figs. 1 and 2, the dampening agent application roller train includes a first roller 04, that receives a dampening agent from a suitable source, such as a pan 03. The first roller 04 is driven by its own first roller drive motor 07. A second roller 06 receives the dampening agent from the first roller 04. The second roller 06 is provided with its own second roller drive motor 08. These two rollers are part of a roller train which typically includes other rollers whose purpose is to convey the dampening fluid to the forme cylinder 09 for application in a smooth uniform layer with a desired thickness. The forme cylinder 09 has its own separate forme cylinder drive motor 18.

It is very important to note that, as recited in currently amended claim 102, these several drive motors are all independent of each other, both in their operation and their control. Each is operable independently of the others to rotate its associated roller 04, 06 or cylinder 09 at a specific surface speed of rotation. It is also important to note, as is also recited in currently amended claim 102, that there are operating parameters that these three motors and these

driven rollers and cylinders obey. These various operating parameters and conditions are not shown, or suggested in the prior art cited and relied on.

As recited in currently amended claim 102, the first roller is driven by its first drive motor at a first roller speed. The second roller is driven independently by its second drive motor at a second roller speed. The forme cylinder is independently driven by its forme cylinder motor at a forme cylinder speed. The speed of the second roller is greater than the speed of the first roller to create a slippage between these two rollers. A certain slippage is selected as a function of the amount of dampening fluid that is to ultimately be applied to the surface of the forme cylinder.

As is recited in currently amended claim 102, the setting of the first roller speed and the setting of the second roller speed, which is greater than the first roller speed and both of which are different from the forme cylinder speed, is done as a function of the forme cylinder speed. In other words, it is the speed of the forme cylinder that is used to set the speeds of the first roller and of the second roller. These two roller speeds are not a function of each other except to the extent that the second roller speed is greater than the first roller speed and that the difference between the two speeds is regulated to provide a specific slippage between the two rollers. The specific magnitude of the slippage that is selected, by independently controlling the speeds of rotation of the first and second rollers, is a function of the speed of rotation of the forme cylinder. It may also be that the selected slippage is also a function of the dampening fluid being applied, of the ink being used in the printing process, and possibly of other factors. However, as recited in currently amended claim 102, the speeds of rotations of the first and second rollers are controllable independently of each other and both are controlled as a function of the forme cylinder surface speed. Claim 102 further recites that the speed of rotation of the first roller is limited to 2 m/s. As recited in the specification of the subject application, this limitation is necessary to insure that the dampening fluid is not thrown off the surface of the first roller.

In the Office Action of July 26, 2007, independent claim 102, as well as various ones of the dependent claims pending in the application were rejected under 35 USC 103(a) "...as being anticipated by Tsuneo (JP 01-232045) in view of Preuss et al. (US 3668694)." (Emphasis added.) It will be assumed, in the following discussion, that the rejection is one of obviousness rather than anticipation. Since claim 102 is the sole independent claim pending in the application, the bulk of the following comments will be directed to the rejection of that claim.

The Examiner's characterization of the Tsuneo reference, at pages 2 and 3 of the Office Action, is not contested. Neither is his discussion of the teachings missing from the Tsuneo reference. It is to be noted, however, that Tsuneo, in its Abstract, specifically recites that the purpose is to supply water to a plate cylinder as a definite water film regardless of the speed change of the plate cylinder. Tsuneo does not specifically recite that there is a separate drive motor for the forme cylinder.

The secondary Preuss reference is relied on to provide the features of the method recited in claim 102 which are absent from the Tsuneo reference. With regard to the Preuss reference, several of the characteristics attributed to Preuss by the Examiner are respectfully traversed by the applicant, through his undersigned attorney.

In Preuss, there is depicted a dampening device for a printing press. A fountain roller 5 is the equivalent of the first roller of the subject invention. An intermediate roller 6 is the equivalent of the second roller of the subject invention. A plate cylinder 3 of Preuss is the equivalent of the forme cylinder of the subject invention.

Initially, it is to be noted that in Preuss, there are shown four different embodiments of drives for the fountain roll 5 and the intermediate roll 6. In Fig. 2, in a first embodiment, the fountain roll 5 and the intermediate roll 6 are driven, in relation to each other, by a variable transmission 36. That variable transmission is driven, in turn, off a gear 30 which is driven by a plate cylinder gear 29 through an intermediate gear 28. In other words, the drives of the fountain roller 5 and the intermediate roller 6 are dependent on the speed of rotation of the plate cylinder.

It is understood that this drive is not relied on in the present rejection, because independent drives of the two rollers are taught by Tsuneo. However Tsuneo does not recite a drive for the plate cylinder and does not assert any type of relationship, or absence of relationship between the drives or its rollers 10 and 11, and a drive for its plate cylinder 8. Thus, it is to be noted that in the Fig. 2 embodiment of Preuss, the drives of the fountain roller 5, the intermediate roller 6 and the plate cylinder 3 are all related.

Fig. 3 of Preuss shows a second drive embodiment where the variable transmission 36 is driven by a separate electric motor 38. However, that motor 38 still drives a variable transmission 36 which, in turn, drives both the fountain roller 5 and the intermediate roller 6.

In Fig. 4, the intermediate roller 6 is in a gear drive connection with the plate cylinder 3. The fountain roller 5 is also in a gear drive relationship with the plate cylinder 3 through a variable transmission 33.

In Fig. 4, the fountain roller 5 is driven independently by a motor 42. However, the intermediate roller 6 is still driven through a gear drive from the plate cylinder 3. Thus, in all of the embodiments of Preuss, there is no freely independent drive for each of the three elements. Tsuneo shows independent drives for the two rollers but is silent as to the drive for its plate cylinder.

In the Office Action of July 26, 2007, it is stated that Preuss teaches changing the dampening supply by slippage regulation in response to the speed of the forme cylinder, citing Column 2, lines 40-47. As discussed during the interview, Preuss, in fact recites that "...an independent drive for the fountain roll...permits programming for an increased supply of dampening fluid when the press is started or for a reduced supply at high speeds of the press..." (Emphasis added.) There is no teaching of regulation of slippage by independent control of the drives for the first and second rollers, as a function of the speed of rotation of the forme cylinder, as required in currently amended claim 102.

At page 4 of the Office Action, it is recited that the method of Preuss results in improved uniformity of the flow of dampening fluid, relying on Column 1, lines 63-68. In fact, that portion of Preuss recites that slippage between the fountain roll 6 and a third, transfer roll 7 can be accurately regulated "...and the extent of the slippage is reduced." While it is also recited that accurate regulation of the slippage improves the uniformity of dampening fluid flow, this is still in the context of reduction of slippage.

The Office Action concludes that it would be obvious to use the Tsuneo independent motor controls for the first and second rollers to form a slippage in accordance with an operating condition of the forme cylinder by regulating the speed differential. As was discussed during the interview, Preuss, at Column 2, lines 25-31 discusses a division of the total slippage between the fountain roll and the intermediate roll, and between the intermediate roll and the transfer roll. This division of the slippage "...can be...selected in accordance with the specific requirements of the job to be performed." Again, there is no teaching or suggestion of the provision of three independent motors driving the first roller, the second roller and the forme cylinder. There is also no disclosure of setting of a selected slippage between the first roller and the second roller as a function of the speed of the forme cylinder.

During the interview of October 25, 2007, the portion of Preuss, at Column 2, lines 5-19 was asserted by the Examiner as being combinable with the two above-noted other portions of Column 2, to support the Examiner's conclusion that the Preuss reference teaches the selection of a slippage between the fountain roller and the intermediate roller as a function of the speed of rotation of the forme cylinder. The undersigned disagreed with that conclusion. In the Interview Summary, it was asserted that "Preuss at least indirectly teaches setting the slippage as a function of the forme cylinder speed." The undersigned continues to respectfully disagree. Once the method of the subject invention, as recited in claim 102, has been disclosed, the teachings of the Preuss reference can be construed, using hindsight, to somehow suggest the method of the present invention. Preuss recites that "The flow of dampening fluid by changing the total

slippage can now be very accurately effected due to the division of the total slippage into two slippage factors...", in Column 2, lines 15-18. Further, Preuss recites that "The division of the slippage...between the transfer roll and the intermediate roll...and between the intermediate roll and the fountain roll...can be conveniently selected in accordance with the specific requirements of the printing job to be performed," in Column 2, lines 26-31. Finally, Preuss recites that the "...independent drive (of the fountain roll) presents programming for an increased supply of dampening fluid when the press is started or for a reduced supply at high speeds of the press...", see Column 2, lines 40-74. It is the position of the undersigned that these three discussions, taken in context, teach that the total slippage of the several rolls in the dampening roller train can be divided into component slippages between the several cooperating sets of rollers. Further, the division of the slippage can be selected in accordance with the requirements of the printing job to be performed. Finally, the drive programming of the independent drive of the fountain roll (emphasis added) is a function of the press speed. The conclusion drawn by the Examiner that the Preuss reference teaches a correlation between a selection of a slippage between the first and second independently driven rollers as a function of the speed of the forme cylinder, is not sustainable based on the direction of the Preuss reference.

Claim 102 has been further amended subsequent to the interview of October 25, 2007. Specifically, claim 102 has further been amended to additionally recite that the first roller surface speed is limited to less than 2 m/s. This limitation was previously in one of the dependent claims, which has now been cancelled. In addition, claim 102 has been further amended to recite that both of the first roller speed and the second roller speed, which are selectable independently of each other, are both selected to be less than the forme cylinder speed. Further, claim 102 has been amended to positively recite the step of setting both of the first roller surface speed and the second roller surface speed as a function of the forme cylinder surface speed. In a further change, claim 102 now recites that the slippage between the first

roller surface and the second roller surface is controlled independently for selecting a slippage in a positive fashion for controlling the amount of dampening fluid that is supplied to the forme cylinder. The selecting of the slippage, by controlling each of the motors of the first and second rollers as a function of the speed of the forme cylinder is yet a further feature of the subject invention which is not shown, or suggested by the combination of Tsuneo and Preuss. Accordingly, it is again believed that the method for controlling rollers in a dampening agent application roller train, as recited in currently amended claim 102, is patentable.

The various other claims now pending in the subject application all depend, either directly or indirectly from believed allowable, currently amended independent claim 102. It is believed that those claims are thus also allowable.

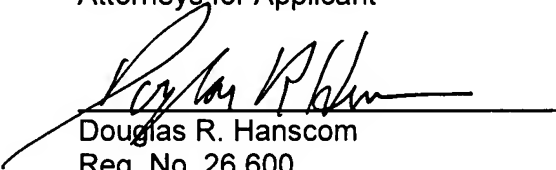
SUMMARY

Claim 102 has been further amended in an effort to place this claim, as well as the various claims that depend from it, in condition for allowance. For the reasons discussed during the interview held October 25, 2007 and for the additional reasons set forth herein, it is believed that the claims now pending in the application are allowable over the prior art cited and relied on, taken either singly or in combination. Allowance of the claims, and passage of the application to issue is respectfully requested.

Respectfully submitted,

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